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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/657,079	09/09/2003	David Alexander	IMMR023/03US	9176
60140 7590 05/02/2007 IMMERSION -THELEN REID BROWN RAYSMAN & STEINER LLP P.O. BOX 640640 SAN JOSE, CA 95164-0640			EXAMINER BANTA, TRAVIS R	
			ART UNIT 3714	PAPER NUMBER
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/657,079

Applicant(s)

ALEXANDER ET AL.

Examiner

Travis R. Banta

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on RCE filed 10/24/2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 12-24, 26-28, 30-31, and 33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 19-24, 26-28, 30, 31 and 33 is/are allowed.
- 6) ☒ Claim(s) 12-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

The amendment to claim 12 is acknowledged. Claims 12-24, 26-28, 30-31, and 33 are pending.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 12 is rejected under 35 U.S.C. 102(b) as being anticipated by Tsuchihashi et al (US Patent No. 4,955,654). Tsuchihashi discloses an apparatus with a capture mechanism configured to engage a user manipulated peripheral device physically contacted by a user (Col 3, lines 44-51; Col 4, lines 39-41), a sensing assembly configured to detect movement of the peripheral device when engaged by the capture mechanism (Fig 6, item 607), a dimension-adjusting mechanism configured to move parallel to a direction of movement of the peripheral device when engaged by the capture mechanism (Col 3, line 56 - Col 4, line 12), and an actuator configured to apply force feedback to the peripheral device when engaged by the capture mechanism, the force feedback being based on control signals associated with the detected movement of the peripheral device (Col 5, lines 2-20). This device is capable of use in a simulated medical procedure.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsuchihashi et al in view of Rosenberg et al (US Patent No. 5,805,140).

Regarding claim 13, Tsuchihashi et al discloses an apparatus and method for a dimension-adjusting mechanism to capture and adjust automatically when manipulating a peripheral device. Tsuchihashi et al does not specifically disclose that the apparatus is configured to adjust in response to a movement of a peripheral device. Rosenberg et al teaches an apparatus wherein the dimension-adjustment mechanism is configured to automatically adjust dimensions of a coupling mechanism in response to a movement of the peripheral device, the coupling mechanism being configured to couple the peripheral device when engaged by the capture mechanism to the sensor assembly (Col 6, lines 25-34). Therefore, it would have been obvious to one of ordinary skill in the art to provide an apparatus and method for a dimension-adjusting mechanism to capture and adjust automatically when manipulating a peripheral device as disclosed by Tsuchihashi et al where the dimension-adjustment mechanism is configured to automatically adjust dimensions of a coupling mechanism in response to a movement of

the peripheral device as taught by Rosenberg et al for the purposes of providing a completely automated system for peripheral manipulation.

Regarding claim 14, Tsuchihashi et al discloses an apparatus and method for a dimension-adjusting mechanism to capture and adjust automatically when manipulating a peripheral device. Tsuchihashi et al does not specifically disclose that the apparatus includes an outer tubular-member and an inner-tubular member at least partially disposed within the outer-tubular member for adjusting the capture mechanism and the inner tubular-member being coupled to the sensing assembly at a distal end of the inner tubular-member. Rosenberg et al teaches an apparatus with a dimension-adjusting capture mechanism including an outer tubular-member and an inner-tubular member at least partially disposed within the outer-tubular member for adjusting the capture mechanism and the inner tubular-member being coupled to the sensing assembly at a distal end of the inner tubular-member (Fig 6). Therefore, it would have been obvious to one of ordinary skill in the art to provide an apparatus and method for a dimension-adjusting mechanism to capture and adjust automatically when manipulating a peripheral device as disclosed by Tsushihashi et al with a dimension-adjusting capture mechanism including an outer tubular-member and an inner-tubular member at least partially disposed within the outer-tubular member for adjusting the capture mechanism and the inner tubular-member being coupled to the sensing assembly at a distal end of the inner tubular-member as taught by Rosenberg et al for the purposes of extending the reach of the existing apparatus when coupling to a peripheral device.

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Claims 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsushihashi et al in view of Rosenberg et al in further view of Bailey (US 6,062,865). Tsushihashi et/Rosenberg et al does not specifically disclose an apparatus comprising a first and second pulley, a belt disposed about the first and the second pulley, a trolley configured to move along a guide rail in response to a corresponding movement of the peripheral device when engaged by the capture mechanism (claims 15-18), a rotation-motion sensor to measure rotation of the peripheral device and a translational-motion device to measure translational-motion when engaged by the capture mechanism (claims 16-18), the translational-motion sensor being coupled to the first pulley (claim 17), or an actuator coupled to a second pulley with the actuator being configured to apply force-feedback by controlling a rotation of the second pulley (claim 18). However, Bailey teaches an apparatus comprising a first and second pulley, a belt disposed about the first and the second pulley, a trolley configured to move along a guide rail in response to a corresponding movement of the peripheral device when engaged by the capture mechanism (Fig 2), a rotation-motion sensor to measure rotation of the peripheral device and a translational-motion device to measure translational-motion when engaged by the capture mechanism (Fig 2), the translational-motion sensor being coupled to the first pulley (Fig 3), or an actuator coupled to a second pulley with the actuator being configured to apply force-feedback by controlling a rotation of the second pulley (Figs 2 and 3). Therefore, it would have been obvious to one of ordinary skill in the art to provide an apparatus with a capture mechanism configured to engage a peripheral device with a sensing assembly configured to detect movement of the

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peripheral device when engaged by the capture mechanism as disclosed by Tsushihashi et al/Rosenberg et al with a first and second pulley, a belt disposed about the first and the second pulley, a trolley configured to move along a guide rail in response to a corresponding movement of the peripheral device when engaged by the capture mechanism, a rotation-motion sensor to measure rotation of the peripheral device and a translational-motion device to measure translational-motion when engaged by the capture mechanism, the translational-motion sensor being coupled to the first pulley, or an actuator coupled to a second pulley with the actuator being configured to apply force-feedback by controlling a rotation of the second pulley for the purposes of providing a training simulator with all elements of actual operating conditions without requiring a live patient.

***Allowable Subject Matter***

Claims 19-24, 26-28, 30-31, and 33 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 19-24, the prior art of record does not teach expanding bellows in response to the movement of a carriage assembly in a method comprising engaging a peripheral device and adjusting the dimension of a coupling mechanism in response to movement of the peripheral device.

Regarding claims 26-28, the prior art of record does not teach a carriage assembly coupled to bellows in an apparatus with a capture mechanism, a sensing

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assembly, and a dimension-adjusting mechanism.

Regarding claims 30-31 and 33, the prior art of record does not teach or suggest a medical simulation device and method in which a bellows having a plurality of leaves is configured to support a peripheral device and used to assist in the stabilization of said peripheral device during movement of the peripheral device.

### ***Response to Arguments***

The Applicant has amended claim 12 to remove the intended use limitation from the preamble. This intended use limitation was amended into the body of the claim.

While this must be given patentable weight as it is part of the body of the claim, the art of record must only be capable of performing the intended use of this function. That is to say, the end effector for use in a remote manipulator system for space crafts taught by Tsuchihashi as outlined in the rejection of claim 12 above, is capable of being used in a simulated medical procedure as well. Thus, the claim limitation is satisfied. See MPEP 2111.02 II.

Claims 13-18 remain rejected as outlined above as the independent claim from which these claims depend is not allowable as argued by Applicant.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Travis R. Banta whose telephone number is (571) 272-1615. The examiner can normally be reached on Monday-Friday 9-4.



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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bob Pezzuto can be reached on (571) 272-6996. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TB

*Ronald Jones*  
*Primary Examiner*  
*4/30/07*